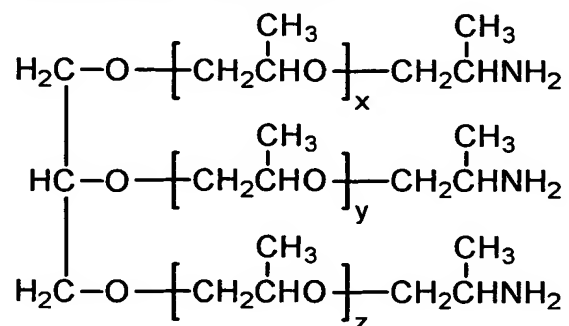


CLAIMS

1. A polyuronic acid derivative comprising glyceryl poly(oxypropylene) triamine and polyuronic acids which are attached by reductively amination, through reducing termini of the polyuronic acids, to the glyceryl poly(oxypropylene) triamine.

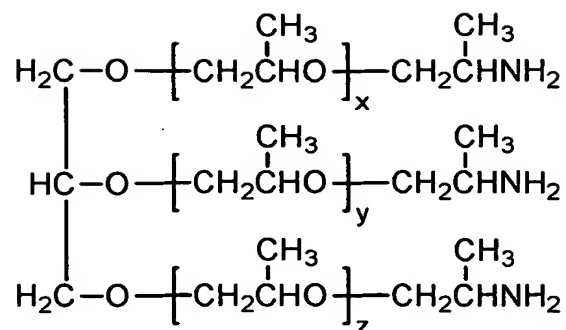
2. The polyuronic acid derivative according to claim 1, wherein one polyuronic acid is attached by reductively amination, through a reducing terminus of the polyuronic acid, to the glyceryl poly(oxypropylene) triamine which is represented by the general formula:



wherein the average value of the sum, $x+y+z$, is greater than or equal to 10 and less than or equal to 150.

3. The polyuronic acid derivative according to claim 2, wherein the average value of the sum, $x+y+z$, in the glyceryl poly(oxypropylene) triamine represented by the general formula is greater than or equal to 10 and less than or equal to 100.

4. The polyuronic acid derivative according to claim 1, wherein two to six polyuronic acids are attached by reductively amination, through reducing termini of the polyuronic acid, to the glyceryl poly(oxypropylene) triamine which is represented by the general formula:



wherein the average value of the sum, $x+y+z$, is greater than or equal to 30 and less than or equal to 250.

5. The polyuronic acid derivative according to claim 4, wherein the average value of the sum, $x+y+z$, in the glyceryl poly(oxypropylene) triamine represented by the general formula is greater than or equal to 30 and less than or equal to 120.

6. The polyuronic acid derivative according to any one of claims 1 to 5, wherein the polyuronic acid is composed primarily of 1,4-linked poly-(α -D-galacturonic acid) or 1,4-linked poly-(α -L-guluronic acid).

7. The polyuronic acid derivative according to any one of claims 1 to 6, wherein the number average molecular weight of the polyuronic acid segment is greater than or equal to 700.

8. A pigment dispersant comprising the polyuronic acid derivative according to any one of claims 1 to 7.

9. A pigment dispersed aqueous ink composition comprising water as the principal solvent, a pigment, and the pigment dispersant according to claim 8.

10. The pigment dispersed aqueous ink composition according to claim 9, wherein said ink composition contains 0.1 to 20% pigment, 0.1 to 10% pigment dispersant, and 70 to 99.8% aqueous carrier medium.

11. An aqueous ink composition comprising water as the principal solvent, a self-dispersed pigment, and the polyuronic acid derivative according to any one of claims 1 to 7.

12. The aqueous ink composition according to claim 11, wherein the ink composition contains 0.1 to 20% self-dispersed pigment, 0.1 to 10% polyuronic acid derivative, and 70 to 99.8% aqueous carrier medium.

13. The aqueous ink composition according to any one of claims 10 to 12, wherein the polyuronic acid segment in the polyuronic acid derivative is neutralized with a neutralizing agent selected from the group consisting of organic bases, alkanolamines, alkali metal hydroxides, and mixtures thereof.

14. A printing method comprising the step of depositing the ink composition according to any one of claims 9 to 13 onto a recording medium.

15. An ink jet recording method comprising the steps of ejecting and depositing droplets of the ink composition according to any one of claims 9 to 13 onto a recording medium.

16. A record produced by the method according to claim 14 or 15.